SUNY Downstate Medical Center
Department of Nursing
Nursing Research and Evidence-Based Practice Conference
May 26, 2010

Strategies for Overcoming Barriers in Implementing Evidence-Based Practice

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Evidence-Based Nursing Care? Evidence-Based Practice?

What is Evidence?
“Collection of facts that grounds one’s belief that something is true.” (Dictionary.com)

What is Evidence Based Practice?
“ The conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.” (Sackett, 1996)

What is All this Fuss About?

SUNY Downstate Medical Center
Session Overview

• Summarize approaches to EBP in nursing practice
• Define, describe and explain the practical application of EBP
  – Differentiate between research, research utilization, and EBP
  – Explicate levels of evidence
  – Operationalize the process
  – Strategize for change
• Discuss implementation leadership and organizational barriers
• Foster a spirit of inquiry among clinical nurses
Evidence-based practice (EBP) is a problem solving approach to clinical practice that integrates the conscientious use of best evidence in combination with a clinician’s expertise as well as patient preferences and values to make decisions about the type of care that is provided. Resources must be considered in the decision making process.
Evidence-Based Practice Defined

- External versus internal evidence
  - External evidence: generated from rigorous research
  - Internal evidence: generated from outcomes management; practice based evidence

- Application in the real world
  - Research translation in real hospital settings

- Combined considerations
  - Clinician’s expertise
  - Patient preferences and values

- Merging the science and “art” within a context of caring
EBP = Change in Practice
Readiness for Change?

A survey of U.S. readiness for EBP (n=1,097)

“Although these nurses acknowledge that they frequently need information for practice, they feel much more confident asking colleagues or peers and searching the Internet and World Wide Web than they do using bibliographic databases such as PubMed or CINAHL to find specific information. They don’t understand or value research and have received little or no training in the use of tools that would help them find evidence on which to base their practice.” (p. 40)

Not Surprising – Many Hurdles

• EBP is perceived as the result of individual practitioners accessing, collating and interpreting overwhelming body of literature
• Postponing EBP until we can get through the stacks of articles and QI we’ve set aside!
• Reluctance to challenge the system
• Limited time or support for non-patient centric activities
• Lack of resources, tools, or methods to organize with others to tackle large questions
Not Surprising – Many Hurdles

- **VOLUME OF LITERATURE**
  - "No unaided human being can read, recall, and act effectively on the volume of clinically relevant scientific literature." (IOM, 2001, p.25)

- **FORM OF KNOWLEDGE**
  - Are results from single primary research adequate for informing practice? What is the base of standards, protocols? (Stevens, 2006)

- **SOLUTION**
  - Evidence summaries, systematic reviews and EBP resources
  - Knowledge translation – conversion to give meaning for clinicians in decision making
Finding the Evidence

• Knowing where to look
• Knowing what to do with what you find
Acting on the Evidence

- Strength of the Evidence + Quality of the Evidence = Confidence to Act
Critical Components of an EBP Culture

- **Spirit of Inquiry**: All providers are encouraged to question their current practices
- **EBP Champions**: Who have depth knowledge and skill in EBP, mentoring others, tackle barriers to organizational change
- **Infrastructure**: Tools that facilitate EBP – computers, databases, personnel
- **Administrative Role Models**: Leaders who value and model EBP and provide resources to maintain it
- **Recognition**: Rewards to individuals and units
The Steps of EBP – Several Versions

Simpson (2004) considers evidence-based practice (EBP) to be a four step process:
(a) the identification of the issue or problem,
(b) the search of the literature for research,
(c) the evaluation of research,
(d) the action based on the evidence.
Parahoo (2006) views EBP as a five step process involving:

(a) the formulation of a clear question related to policy or practice,
(b) the search of relevant research studies,
(c) the appraisal of selected studies,
(d) the analysis and the synthesis of the findings,
(e) the dissemination of results and implementation of evidence.
The Steps of EBP – Several Versions

Thomson et al. (2004) suggests that integrating evidence within clinical reality involves a five step process involving:

(a) forming clinical question in response to a recognized information need,
(b) searching for the most appropriate evidence,
(c) critically appraising the retrieved evidence,
(d) incorporating the evidence into a strategy for action,
(e) evaluating the effects of any decisions and actions taken.
Holleman et al. (2006) advocate that the introduction of EBP into daily practice may involve a six step process:

(a) assessment of the need for practice changes,
(b) linking problem interventions and outcomes,
(c) synthesis of best evidence,
(d) design of practice change,
(e) implementation and evaluation of practice change,
(f) integration and maintenance of EBP change.

• Step 1: Ask the PICO Question
• Step 2: Search for the Best Evidence
• Step 3: Critically Appraise the Evidence
• Step 4: Integrate the Evidence with Your Clinical Expertise and Patient Preferences to Make the Best Clinical Decision
• Step 5: Evaluate the Outcome(s) of the EBP Practice Change
• Step 6: Disseminate the Outcome(s)

• Step 0 : Cultivate the Spirit of Inquiry & EBP Culture
• Step 1: Ask the PICO Question
• Step 2: Search for the Best Evidence
• Step 3: Critically Appraise the Evidence
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• Step 5: Evaluate the Outcome(s) of the EBP Practice Change
• Step 6: Disseminate the Outcome(s)

- Ignite the Spirit of Inquiry
- Formulate a Searchable, Answerable PICO Question
- Streamlined, Focused Search
- Rapid Critical Appraisal & Synthesis of Evidence
- Apply Valid, Relevant Evidence
- Generate Evidence Internal: OM, QI
  External: Research
- Evaluate the Outcome(s) and Disseminate the Findings
The PICO Question – Melnyk & Fineout-Overholt (2005)

Ask the burning question in PICO format:

• **Patient population**
• **Intervention or interest**
• **Comparison intervention group**
• **Outcome**
Levels of Evidence – Melnyk & Fineout-Overholt (2005)

1. Systematic Review or Meta-analysis of all Relevant RCTs
2. Evidence-based Clinical Practice Guidelines based on Systematic Reviews of RCTS
3. Evidence Obtained from at Least One Well-designed RCT
4. Evidence Obtained from Well-designed Controlled Trials without Randomization and from Well-designed Case-control and Cohort Studies
5. Evidence from Systematic Reviews of Descriptive and Qualitative Studies
6. Evidence from a Single Descriptive or Qualitative Study
7. Evidence from the Opinion of Authorities and/or Reports of Expert Committees
Top EBP Website Resources

- Agency for Healthcare Research and Quality (AHRQ) (http://www.ahrq.gov)
- Canadian Centre for Health Evidence (http://www.cche.net)
- Clinical Evidence (http://www.clinicalevidence.com)
- Cochrane Collaboration* (http://www.cochrane.org)
- CPM Resource Center (http://cpmrc.com)
- Evidence-Based Nursing (http://ebn.bmjjournals.com)
- Joanna Briggs Institute for Evidence-Based Nursing and Midwifery (http://www.joannabriggs.edu.au)
- National Guidelines Clearinghouse (http://www.guidelines.gov)
- National Institute for Clinical Evidence (NICE) (http://www.nice.org.uk)
- NHS Centre for Evidence-Based Medicine (http://www.cebm.net)
- Sarah Cole Hirsh Institute for Best Nursing Practices Based on Evidence (http://fpb.cwru.edu/HirshInstitute)
DIFFERENCES B/T RESEARCH AND EBP

Ask yourself:

• **EMPHASIS ON PRACTICE OF RESEARCH**

or

• **EMPHASIS ON RESEARCH FOR PRACTICE**
ACE Star Model – Knowledge Transformation

ACE Star Model – Knowledge Transformation

The conversion of research findings from primary research results, through a series of stages and forms, to impact on health outcomes by way of EB care.

EBP Performance Competencies: Examples for Staff Nurses

- **Discovery**: “Recognize ratings of strength of evidence when reading the literature”

- **Summary**: “List advantages of SRs as strong evidential foundation for clinical decision making”

- **Translation**: “Using specified databases, access CPGs on various clinical topics”

- **Integration**: “Assist in integrating practice change based on EB CPGs”

- **Evaluation**: “Participate in EB quality improvement processes to evaluate outcomes of practice change”

Major Barriers to the Advancement of EBP

- Lack of knowledge and skill
- Low comfort level with search techniques
- Perceived lack of time – REAL LACK OF TIME
- Challenges with critically appraising research
- Lack of organizational/administrative support
- Educational programs that continue to teach research the “traditional way” with a focus on producing instead of using evidence
- Negative attitudes – skeptics and fear
Major Facilitators to the Advancement of EBP

- Individuals and knowledgeable champions
- Beliefs that EBP improves care and outcomes
- Beliefs in the ability to implement EBP
- Mentors who are skilled in EBP
- Administrative support, including managers, that model and encourage transformation
- ACTION, PERSISTENCE and PATIENCE!
- Thinking “SUCCESS” – Building Character!
The Challenges of Change – Taking the Proposal Forward

- Difficult with resistance to change
- Organizational system issue
- When there is so much change, it’s important to find “comfort zone”
Assess Your Organization’s Culture for Readiness for EBP

- Does the philosophy and mission of the institution support EBP?
- What is the personal commitment to EBP among administrators and educators?
- Are there mentors and/or champions with knowledge and skill?
- Is EBP built into clinician’s annual performance appraisal?
- Do advance practice nurses, managers and educators model EBP and mentor others?
- Are there librarians with knowledge of EBP?
- Is there an EBP Council?
Build an EBP Infrastructure

- Develop a cadre of EBP champions throughout the organization
- Place nurses on Institutional Review Boards, quality improvement panels and key interdisciplinary committees
- Provide library and internet resources for the direct care staff
- Establish strong collaborations with nursing colleges
- Include EBP as part of every new nurse’s orientation
- Disseminate results of EBP implementation projects
- Recognize and reward EBP accomplishments
Practical Strategies for Advancing EBP on the Nursing Units

- Keep it simple and fun
  - “Team work” as an organized plan
  - Journal Clubs to get things going; PICO boxes on units
  - Picking research topics that fit with peer process; EBP projects
  - “If we – as a unit – decide to meet once a week, we might find a collective set of questions”
- Use small groups whenever possible (<10)
- Start with a PICO question that is meaningful/clinically relevant to the group
- DE-EMPHASIZE statistics
- EXAMPLES: Robert Wood Johnson Foundation TCAB Project – *Transforming Care at the Bedside*
Practical Ideas for Advancing EBP in Everyday Work

- **QI Providing Change in Behavior**
  - “What works for this problem?”
  - What audit results can trigger ways to change?

- **Evidence Related to Products and Practice**
  - Routine reviews of products and practices
  - Questioning to improve efficiency or prevent problems

- **Asking nurses at the unit level to keep track of “glitches” that might be sources of “monitoring” pre-errors and near misses**
  - “Change” boxes on units
  - Brainstorming meetings

- **Studying “workarounds”**
Hand-off Communications

Basic Communication – Structured for Safety

• JCAHO identified failures in communication to be the leading cause in 80% of reported sentinel events
  • “At least half of breakdowns at hand-offs”
• Multiple variations and risks for “fumbles”
  • Shift-to-shift report
  • Transferring responsibility
  • One service to another
  • One organization to another
• High complexity and time of high risk for catastrophic outcome – especially with children
Hand-off Communications

The primary objective of a “hand-off” is to provide accurate information about a patient’s care, treatment, and services, current condition and any recent or anticipated changes.
Hand-off Communications
From Aviation and NASA

- **Airlines and Space Shuttle Missions**
  - Vulnerable with “high consequences for failures”
  - High risk related to fatigue, complexity and environmental interruptions
  - Hierarchical relationships

- **Lessons from aviation and NASA**
  - Standardization and checklists
  - Limited interruptions
  - Limited use of intermediaries
Hand-off Communications
Strategies from Research

- Face-to-face verbal updates with interactive questioning
- Limited interruptions
- “Readback” by receiver and validation
- Written summaries of activities
- Unambiguous transfer of responsibility
- Make clear who is responsible for what
- Overhear others’ updates

30 Second Head-to-Toe (H2T) Assessment

- Study at University of Florida
- Standardizing report follow-up
- Students arrive on pediatric unit
  - 30 Second H2T Assessment
  - 4 Semesters of Students (16 per semester)
  - 352 completed assessments of children (n=352)

Deborah Popovich & Veronica Feeg, 2008
30 Second Head-to-Toe (H2T) Assessment

Findings

- 30% of H2H had errors of some kind (n=106)
- Of the H2H forms with errors, 29% were related to inline filters required by hospital policy
- Of the H2H forms with errors, 36% were children without ID bands
- Other errors included unlabeled IV fluids or tubing incorrectly labeled, alarms not set

Conclusions

- Routinely capture potential problems
- Pre-emptive strike

Deborah Popovich & Veronica Feeg, 2008
### 30 SECOND HEAD-TO-TOE

**LINED ITEMS ARE TO BE FILLED IN**

**Student:**
- Room Number:
- Age:

<table>
<thead>
<tr>
<th>Intravenous Fluids</th>
<th>NA</th>
<th><strong>FILL IN ALL LINES AS APPROPRIATE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>N</td>
<td>1. Ordered IV fluids. What’s ordered is what’s hanging</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>2. Date and Time IVF bag is due to be changed</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>3. Date and Time IV tubing is due to be changed</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>4. Date and Time IV medication pump tubing is due to be changed</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>5. Rate of IV fluid rate set correctly</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>6. Total Volume Status cleared to 0 at 0600</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>7. Volume To Be Infused is appropriate</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>8. HAL has a filter</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>9. Lipids Volume To Be Infused is correct</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>10. Site is without infiltration/edema</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>11. Date PICC/CV/JP dressing is due to be changed</td>
</tr>
<tr>
<td>N</td>
<td>N</td>
<td>12. Filter on all children under 2 years old or Cardiovascular Diagnosis</td>
</tr>
<tr>
<td>N</td>
<td>N</td>
<td>13. Heparin Lock Concentration/Yd/Schedule you will add to MAR</td>
</tr>
<tr>
<td>PIV</td>
<td>NA</td>
<td><strong>Lumen #1</strong> Lumen #2</td>
</tr>
</tbody>
</table>

**Oxygen**
- NA

| Y      | 1. Flowmeter is set correctly |
| Y      | 2. Oxygen is humidified |
| Y      | 3. Nasal cannula is taped securely |
| Y      | 4. Nasal mucosal irritation |

**NGT**
- NA

| Y      | 1. Suction setting correct |
| Y      | 2. Suction is working |
| Y      | 3. Mini canister drainage emptied at 0600 |
| Y      | 4. Sump tube blue pigtail patent |
| Y      | 5. Replacement fluids ordered. If not, WHY? |

**NG/GT Feed**
- NA

| Y      | 1. Date and Time Kangaroo bag or buretal due to be changed |
| Y      | 2. Rate is set correctly |
| N/N/A  | 3. Dose is set correctly |
| Y      | 4. Volume received makes sense |

**AB Monitor or Telemetry**
- NA
Resources and Programs

- AHRQ Tools, Programs and Information
  - Patient Safety and Quality:
    An Evidence-Based Handbook for Nurses
    (http://www.ahrq.gov/qual/nurseshdbk)
  - TeamSTEPPSTM (Strategies & Tools to Enhance Performance and Patient Safety)
    - Step by materials, checklists and team activit
  
- Department of Defense Programs – IPASS the BATON
TeamSTEPPS™

TeamSTEPPS™: National Implementation

PERFORMANCE

- Leadership
- Communication
- Situation Monitoring
- Mutual Support

KNOWLEDGE

SKILLS

ATTITUDES

PATIENT CARE TEAM
“I PASS the BATON”

Strategies and Tools to Improve Healthcare Handoffs and Transitions

“I PASS THE BATON”

- A mnemonic for Handoffs and Healthcare Transitions
- With opportunities to ask QUESTIONS, CLARIFY, and CONFIRM
<table>
<thead>
<tr>
<th>Mnemonic for Structure</th>
<th>Introduction</th>
<th>Patient</th>
<th>Assessment</th>
<th>Situation</th>
<th>Safety Concerns</th>
<th>Background</th>
<th>Actions</th>
<th>Timing</th>
<th>Ownership</th>
<th>Next</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Introduce yourself and your role/job (include patient)</td>
<td>Name, identifiers, age, sex, location</td>
<td>Presenting chief complaint, vital signs and symptoms and diagnosis</td>
<td>Current status/ circumstances, including code status, level of (un)certainty, recent changes, response to treatment</td>
<td>Critical lab values/reports, socio-economic factors, allergies, alerts (falls, isolation, etc.)</td>
<td>Co-morbidities, previous episodes, current medications, family history</td>
<td>What actions were taken or are required AND provide brief rationale</td>
<td>Level of urgency and explicit timing, prioritization of actions</td>
<td>Who is responsible (nurse/doctor/team) including patient/family responsibilities?</td>
<td>What will happen next? Anticipated changes? What is the PLAN? Contingency plans?</td>
</tr>
</tbody>
</table>
Information Transfer Model

CHECK-BACK

BARRIERS TO COMMUNICATION

COMPlex INFO

FATIGUE

TIME

URGENCY

VOLUME

CONFIDENTIALITY

INFO

RECEIVER

SENDER
Handoff: Prioritized Information

- Emergency Treatment
  - Urgency
    - Patient Family Awareness
    - Medication Reconciliation
    - Anticipation: Next Steps
    - General Care Plan
    - Who is Responsible?
  - Safety Concerns
    - Time Critical Actions
    - Critical Info, Values
    - Major Risks, Threats, Pitfalls
    - Current Status Circumstances
    - Uncertainties
  - Admin Data
    - Patient IDs
    - Background Medical Data
    - Relevant Diagnoses

Critical Elements When Considering:
- Checklists
- Cultural Change
- Structure
- Human Factors
- Information Technology

Evaluate
- Background
- Major Considerations
Strategies and Tools to Improve Healthcare Handoffs and Transitions
Case Example of Organizational Change: IPASS the BATON

- Today’s fast pace environments, communication can be problematic at “hand-off”
- Implementation of an EB program at a large hospital system including the children’s hospital
- System-wide project to change shift-to-shift communication
- Report at a conference by the staff involved in the multiple unit projects

Thomas, L. et al. (May, 2009). LIJ Health System, New York: Research and Evidence Based Practice Conference
Multi-Unit Project Communication

- Shared goal-setting
- Socialization
- Active listening
- Triadic dialogue
- Team building
- Group cohesion

Thomas, L. et al. (May, 2009). LIJ Health System, New York: Research and Evidence Based Practice Conference
Organizational Change

- Planned Change
- Conscious Change
- Collaboration Essentials
- Trust as a Base
  - All necessary as the pilot implementation of an evidence-based project is carried forth
  - Continuous discussion as process evolved
Implementation Model

- INSPIRATION
- INFORMATION
- TRANSFORMATION
- MEASUREMENT - Press Ganey Scores, Nurse Satisfaction, Errors
  - Pre-Implementation Measures
  - Post-Implementation Ongoing

Thomas, L. et al. (May, 2009). LIJ Health System, New York: Research and Evidence Based Practice Conference
Leadership Characteristics that Support Front-line Staff Empowerment and EBP

- Tolerance for change
- Willing to take calculated risks
- Focus on small tests of change to build trust
- Willingness to have several things going on at once
- Personal self-confidence to allow staff to make changes
- Being open to staff identifying ways things can be different
- Respect for professionalism of staff
- Role of teacher and mentor
- Support from upper management – allowing time for improvement activities
National Consortium for Pediatric and Adolescent EBP (NCPAEP)

- **Launched:** 2007 during an EBP Leadership Summit, funded by the Agency for Healthcare Research and Quality (AHRQ)
- **Vision:** A leading organization for pediatric and adolescent EBP
- **Mission:** To promote interdisciplinary EBP and collaborative research for improving child and adolescent health outcomes across the care continuum.

Thank You

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